

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claim 7 was rejected under 35 U.S.C. 112 for lack of antecedent basis for the limitation “thrust plate.” This limitation has been cancelled from the claim to overcome the rejection.

Claim 15 was rejected under 35 U.S.C. 112 for lack of antecedent basis for the limitations “first plate” and “second plate.” These limitations have been appropriately replaced with “drive plate” and “stationary plate” respectively. Thus, the rejection has been overcome.

Claims 1-6, 8-9 and 11-15 were rejected under 35 U.S.C. 102(b) over U.S. Patent No. 3,560,004 to Donley et al. (hereinafter “Donley”). Claims 7 and 16 were rejected under 35 U.S.C. 103(a) over Donley in view of U.S. Patent No. 3,601,413 to Darnell (hereinafter “Darnell”). For the following reasons, the rejection is respectfully traversed.

Regarding independent claims 1 and 15, neither Donley nor Darnell teaches or suggests a “bellows having a plurality of corrugations,” as required. Donley provides a pair of spring members (30, 31) which act as a “double diaphragm” and come together to form a single inwardly projecting ridge. The spring members do not form a bellows having a *plurality of corrugations*, as in claims 1 and 15. Darnell does not disclose any bellows. Thus, since each of the limitations of the claims are not taught or suggested by the references, claims 1 and 15 and dependent claims 2-14 are patentable over the prior art of record.

Further, a new claim 16 has been added distinguishing over Donley by requiring that the bellows is a *unitary element*. Since, the seal (6) of Donley is formed of several separate components (30, 31, 32, 33, 34), claim 16 is patentable over Donley.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 32040US1.

Respectfully submitted,

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IN THE CLAIMS:

Claims 1, 7, 15 and 16 have been amended in the following manner:

1 1. (amended) A sealing system for a rotating machine having a stationary element
2 and a drive element rotationally connected to said stationary element, the sealing system
3 comprising:

4 a plate comprising a bearing surface, the plate being connected to one of said
5 drive element and said stationary element; and

6 a sealing assembly comprising a resilient bellows and a bearing surface, the
7 bellows having a plurality of corrugations and providing a force which causes the bearing
8 surface of the sealing assembly to bear on the bearing surface of the plate to form a
9 dynamic seal.

1 7. (amended) The sealing system of claim 1, wherein [at least one of] said plate
2 [and said thrust plate] comprises graphite which provides a sealing and lubricating layer
3 to the dynamic seal.

1 15. (amended) A sealing system for a rotating machine having a stationary
2 element and a drive element rotationally connected to said stationary element, the sealing
3 system comprising:

4 a drive plate comprising a bearing surface, the [first] drive plate being rigidly
5 connected to said drive element;

6 a stationary plate comprising a bearing surface, the [second] stationary plate being

7 rigidly connected to said stationary element; and
8 a sealing assembly comprising a resilient bellows having a plurality of
9 corrugations, a first bearing surface and a second bearing surface, the bellows providing
10 a force which causes the first bearing surface of the sealing assembly to bear on the
11 bearing surface of the drive plate forming a first dynamic seal and causes the second
12 bearing surface of the sealing assembly to bear on the bearing surface of the stationary
13 plate forming a second dynamic seal.

1 16. (Amended) A sealing system for a rotating machine having a stationary
2 element and a drive element rotationally connected to said stationary element, the sealing
3 system comprising:

4 a drive plate comprising graphite and a bearing surface, the drive plate being
5 rigidly connected to said drive element

6 a stationary plate comprising graphite and a bearing surface, the stationary plate
7 being rigidly connected to said stationary element;

8 a sealing assembly comprising a resilient corrugated bellows having a plurality
9 of corrugations and providing a force and having first and second collars, a first thrust
10 plate attached to the first collar and providing a first bearing surface, and a second thrust
11 plate attached to the second collar and providing a second bearing surface;

12 a first static sealing element, the first static sealing element being disposed within
13 a first gap provided between the first collar and the first thrust plate;

14 a second static sealing element, the second static sealing element being disposed
15 within a second gap provided between the second collar and the second thrust plate;

16 a drive plate mounting element which connects the drive plate to the drive

17 element; and

18 a stationary plate mounting element which connects the stationary plate to the

19 stationary element;

20 wherein the first and second thrust plates further comprise graphite, and wherein

21 the force of the bellows causes the first bearing surface of the sealing assembly to bear

22 on the bearing surface of the drive plate forming a first dynamic seal comprising a first

23 sealing and lubricating graphite layer, and the force of the bellows causes the second

24 bearing surface of the sealing assembly to bear on the bearing surface of the stationary

25 plate forming a second dynamic seal comprising a second sealing and lubricating graphite

26 layer.